

## Global Tides

---

Volume 12

Article 8

---

5-2-2018

# The Whole World in His Hands: What a Qibla Indicator Illuminates About Islamic Community in Sixteenth-Century Ottoman Turkey

Meghan Doyle

Pepperdine University, [meghan.doyle@pepperdine.edu](mailto:meghan.doyle@pepperdine.edu)

---

### Recommended Citation

Doyle, Meghan (2018) "The Whole World in His Hands: What a Qibla Indicator Illuminates About Islamic Community in Sixteenth-Century Ottoman Turkey," *Global Tides*: Vol. 12 , Article 8.

Available at: <https://digitalcommons.pepperdine.edu/globaltides/vol12/iss1/8>

This Humanities is brought to you for free and open access by the Seaver College at Pepperdine Digital Commons. It has been accepted for inclusion in Global Tides by an authorized editor of Pepperdine Digital Commons. For more information, please contact [josias.bartram@pepperdine.edu](mailto:josias.bartram@pepperdine.edu) , [anna.speth@pepperdine.edu](mailto:anna.speth@pepperdine.edu).

At the turn of the seventeenth century, a time when the Spanish Habsburgs dominated the Mediterranean, the Austrian Habsburgs held sway over the mainland,<sup>1</sup> and a rich artistic tradition migrated from Italy westward, the Ottoman Empire strove to carve its own niche in the burgeoning modern world. Unstable holdings in the Mediterranean complicated the empire's rise to power,<sup>2</sup> as clashes with the Iranian Safavid dynasty over control of Baghdad similarly drained Ottoman resources.<sup>3</sup> Further wracked by infighting among the sons of Süleyman and the same emperor's strict persecution of Shi'ite Muslims,<sup>4</sup> Ottoman Sunni Muslims sought community apart from the bureaucracy, in religion instead.<sup>5</sup> Inherited folk practices, Hellenistic astronomy, and novel craftsmanship combined to serve the scientific needs of Islam, the product of which found fruition in distinctly Islamic objects, such as astrolabes, brass plate maps, and *qibla* indicators.<sup>6</sup> The *qibla* indicator, in particular, presented an inventive solution to the difficulty of praying towards Mecca by offering adherents a relatively accurate, efficient way of locating the sacred city from any locale in the Islamic

---

<sup>1</sup> Suraiya Faruqi, *The Ottoman Empire and the World Around It* (London & New York: I. B. Tauris, 2004), 32.

<sup>2</sup> *The Early Modern Ottomans: Remapping the Empire*, ed. Virginia H. Aksan, and Daniel Goffman (Cambridge: Cambridge University Press, 2007), 7.

<sup>3</sup> Faruqi, *The Ottoman Empire*, 34.

<sup>4</sup> *Ibid.*, 44-5.

<sup>5</sup> *Early Modern Ottomans*, 4.

<sup>6</sup> David A. King, "Faces of the Kaaba: It's a Primitive Observatory, Weather Vane, and Pointer to God," *The Sciences* 22, no. 5 (May-June 1982): 18; David A. King, "The Sacred Geography of Islam," in *Mathematics and the Divine: A Historical Study*, ed. T. Koetsier and L. Bergmans (Oxford: Elsevier B. V., 2005), 164; David A. King, "Two Iranian World Maps for Finding the Direction and Distance to Mecca," *Imago Mundi* 49, no. 1 (1997): 64; M.A.S. Abdel Haleem, "The Importance of Hajj: Spirit and Rituals," in *Hajj: Journey to the Heart of Islam*, ed. Venetia Porter (London: The British Museum Press, 2012), 64, 66.

world.<sup>7</sup> The excellent condition of the British Museum's example primes it for the study of such objects in general, lending insight into the use and connotation of *qibla* indicators under the Ottomans. Despite the object's ubiquity throughout the seventeenth century,<sup>8</sup> the exquisitely-crafted *qibla* indicator at the British Museum represents a holy microcosm of Islamic values by emphasizing sacred geography and situating each individual believer in a universal faith community.

#### SACRED GEOGRAPHY OF ISLAM

Since the seventh century CE, when God revealed to the Prophet Muhammad His holy word in the *Qur'ân*, adherents of Islam have oriented themselves and performed ritual activities in the sacred *qibla* direction. Initially, the *qibla* faced Jerusalem, but Muhammad's revelation dictated instead the direction of prayer towards the shrine at Mecca, called the Kaaba.<sup>9</sup> The almost-cubic edifice dates from the pre-Islamic era, when pagan worshippers treated it as a sanctuary for the divine.<sup>10</sup> Perhaps they recognized its cosmological significance, in that each corner of the structure aligns with a different region of the world, and the major and minor axes parallel the movements of Canopus and the summer sunrise/

---

<sup>7</sup> David A. King, "Astronomy in the Service of Islam," in *Handbook of Archaeoastronomy and Ethnoastronomy*, ed. C. L. N. Ruggles (New York, Heidelberg, Dordrecht, & London: Springer Science+Business Media New York, 2015), 192; David A. King, *World-maps for Finding the Direction and Distance to Mecca: Innovation and Tradition in Islamic Science* (Leiden & Boston: Brill, 2014), 109.

<sup>8</sup> King, *World-maps*, 109. Earlier sources, like King's "Faces" and the same scholar's "Science in the Service of Religion: The Case of Islam," *Impact of Science on Society* 40, no. 1 (1990): 245-262, date the object's popularity to the fourteenth century; however, this author has chosen to abide by the date given in the newer source, which more accurately aligns with the production of modern *qibla* indicators.

<sup>9</sup> King, "Astronomy," 181, 189; King, "Faces," 18; King, "Sacred Geography," 163; King, "Science," 253; King, "Two Iranian World Maps," 64.

<sup>10</sup> King, "Faces," 17; King, "Sacred Geography," 163; King, "Science," 253.

winter sunset, respectively.<sup>11</sup> Perhaps they felt a sense of belonging by training their eyes in one concordant direction, or a connection to the heavens by engaging with such a “microcosm of the celestial and terrestrial universe.”<sup>12</sup> Either way, the Kaaba has for centuries offered a significant focal point for the faithful, indicating what David King terms the “colourful sacred geography”<sup>13</sup> associated with Islam. Such an understanding of the world—that is, seeing the universe in terms of its alignment with the celestial realm—permeates daily activities in the hearts of the faithful: “Long before human beings began to map their world scientifically, they developed a sacred geography. Anything in the natural world that stood out from its surroundings was believed to give human beings direct access to the divine world, because it spoke of something else.”<sup>14</sup> Thus, humans are inherently wired to seize the phenomenal in nature as a result of their attraction to the cosmic beyond. “For Muslims living close to Mecca, finding the *qibla* presented little problem. However, as the community spread beyond Arabia, determining the exact direction of the *qibla* became a major preoccupation.”<sup>15</sup> Innovation in Islamic astronomical devices, cartography, and the coordinate plane are all manifestations of such a fixation, although Islamic legal scholars and scientists differed over the basis for such inventions.<sup>16, 17</sup>

---

<sup>11</sup> David A. King, “Astronomical Alignments in Medieval Islamic Religious Architecture,” *Annals of the New York Academy of Sciences* 385, no. 1 (1982): 306; King, “Astronomy,” 189; King, “Faces,” 19; King, “Science,” 254-5; King, “Two Iranian World Maps,” 64.

<sup>12</sup> King, “Faces,” 20.

<sup>13</sup> King, “Two Iranian World Maps,” 64.

<sup>14</sup> Karen Armstrong, “Pilgrimage: Why Do They Do It?” in *Hajj*, 19.

<sup>15</sup> Venetia Porter, *The Art of Hajj* (London: The British Museum Press, 2012), 11.

<sup>16</sup> Haleem, “Spirit and Rituals,” 64, 66; King, “Astronomical Alignments,” 305; King, “Astronomy,” 193; King, “Faces,” 17, 18; King, “Science,” 261.

<sup>17</sup> The author acknowledges the contentious use of the word “innovation” regarding a religious milieu in which such an idea is considered *bida*, or taboo. Thus, “innovation” is employed in a completely general sense, that is, simply to convey the notion of progress in the complicated field of geographical science represented by the mentioned objects.

Legal schools associated with the tradition of folk astronomy advocated either facing due south, because Muhammad prayed in that direction,<sup>18</sup> or a *qibla* determination based on astronomical events, like risings and settings of the moon and stars. Both of these explanations offered an accessible, if erroneous, solution for all adherents; all it required was a glance at the sky to align oneself with the same celestial viewpoint one would hold were he or she physically facing the wall of the Kaaba corresponding to his or her region.<sup>19</sup> Such methods, devoid of calculation, contrasted with the mathematical approach touted by a more esoteric class of academicians. In this geography, scientists found the sacred city by comparing known coordinate points with geometry and trigonometry, ultimately resulting in a complicated *qibla* formula<sup>20</sup> that proved relatively useless to anyone without a calculating device.<sup>21</sup> The debate between folk astronomers and scientists fueled developments in the discipline and resulted in different mosque orientations, sometimes in the same city.<sup>22</sup> Lacking a consensus on the “true” direction of Mecca, Muslims were left to their own devices to determine the *qibla* in time for the five daily prayers.

#### THE QIBLA INDICATOR SOLUTION

One of these devices was the *qibla* indicator, constructed according to folk astronomy, marking *qiblas* based not on calculation but on relative direction from Mecca.<sup>23</sup> The Ottoman example in the British Museum dates to 1582-3 and is signed by Bayram ibn Ilyas (Figure 1). Crafted of metal, painted ivory, gold, fibre, and brass, and measuring only 11 centimeters across, this *qibla* indicator, which doubles as a sundial, draws the viewer to its intriguing beauty and obvious

---

<sup>18</sup> King, “Astronomy,” 189; King, “Faces,” 19; King, “Science,” 254.

<sup>19</sup> Haleem, “Spirit and Rituals,” 64, 66; King, “Astronomical Alignments,” 304; King, “Astronomy,” 182-4, 190; King, “Faces,” 19; King, “Sacred Geography,” 163, 165-6; King, “Science,” 246.

<sup>20</sup> According to King, “Astronomy,” 191, the modern *qibla* formula is as follows:  $q = \cot^{-1} [(\sin a \cos c - \cos a \tan b) / \sin c]$ .

<sup>21</sup> King, “Astronomy,” 182-4, 191; King, “Sacred Geography,” 174; King, “Science,” 257-8.

<sup>22</sup> King, “Faces,” 17; King, “Science,” 259-60.

<sup>23</sup> King, *World-maps*, 115.

intellectual value.<sup>24</sup> Delicate gold lines divide the ivory disk's outer ring into 72 sections, each corresponding to a different locale, or group of locales, in the Islamic world (Figure 2).<sup>25</sup> Black *naskh* script used to label each city offsets the shimmering gold dots distinguishing one name from the next, lending the object a radiant effect. Only one city, Constantinople, is listed in red, indicating it as the place of production. In the center, the imposing Kaaba reigns supreme, enclosed by a red fence and with an indication of the Black Stone on the southeast corner (Figure 3).<sup>26</sup> A surrounding quartet of golden *mihirabs* offers specialized places of prayer for each of the four schools of Islamic law – Shafi'i, Maliki, Hanbali, and Sharafi – while the cardinal directions are painted in red between the *mihirabs*.<sup>27</sup> Squeezed beneath the compass and beside the northernmost *mihirab* is the artist's signature and date of production,<sup>28</sup> both valuable pieces of evidence when reconstructing history through visual culture.



Figure 1. Bayram ibn Ilyas, *Sundial / Compass / Qibla pointer*, 1582-3, Ottoman Turkey. Metal, ivory, gold, fibre, and brass, diameter 11cm, height 5.5cm with metal strut unfolded. British Museum, London. [www.britishmuseum.org](http://www.britishmuseum.org).

<sup>24</sup> "Collection Online: Sundial / Compass / Qibla Indicator," *The British Museum*.

<sup>25</sup> "Collection Online"; King, *World-maps*, 116; Porter, *Art of Hajj*, 14.

<sup>26</sup> King, "Faces," 19.

<sup>27</sup> "Collection Online."

<sup>28</sup> *Ibid.*



Figure 2. Bayram ibn Ilyas, *Sundial / Compass / Qibla pointer* (Constantinople detail), 1582-3, Ottoman Turkey. Painted ivory, in gold, black, and red *naskh* script. British Museum, London. British Museum Twitter post.



Figure 3. Bayram ibn Ilyas, *Sundial / Compass / Qibla pointer* (Kaaba detail), 1582-3, Ottoman Turkey. Painted ivory, in gold, black, and red *naskh* script, with string gnomon attached beneath compass. British Museum, London. British Museum Twitter post.

A scarlet sail rising above the Kaaba constitutes an “unequal hours” sundial function,<sup>29</sup> facilitated by a foldable metal strut attached to a string gnomon, which aligns with the compass when facing north. An “equal hours” sundial finds its manifestation in the rings of degree markings between the outer city names and the inner Kaaba.<sup>30</sup> The first of these is divided into sections of 15°, the next laid out in increments of 5°, and the last separated into sections of 1° each, which results in 105 degrees marked on either side of the golden meridian line.<sup>31</sup> Such features inform the owner of time of day, providing essential knowledge for a faith that requires daily prayers at five specific hours. For an accurate sundial reading, the compass, and thus the accompanying string, needs to orient northward; however, the correct time will only display at the particular latitude of the city in which the object was created.<sup>32</sup> Such a stipulation seems to eliminate the need for the place names circling the indicator, as only one is relevant; however, witnessing one’s personal place within a broader regional context both facilitates and strengthens a Muslim’s sense of global Islamic community.

Once the adherent determines the time, and thus the call to prayer, he or she needs to calculate the direction of prayer by way of the intricate list of locales rimming the ivory disk.

Imagine the dial of a clock 1 to 12 on the outside of the rim. The foot of the metal pin is at 12 o’clock. The places listed between 12 o’clock and 3 PM are all roughly northeast of Mecca...and thus have a general qibla direction of southwest...To use the qibla indicator from a certain place, one would first identify that place in the list and its position in relation to the Ka’ba in the centre. Then one would align the instrument in a north-south direction with the help of the compass and determine the approximate direction of the Ka’ba.<sup>33</sup>

Such ingenuity required little mathematical thought on the part of the faithful, yet offered an effective solution to a long-standing question, vital to ritual practice. Despite the plethora of answers to the *qibla* problem, the portable size of the *qibla*

---

<sup>29</sup> “Collection Online”; Porter, *Art of Hajj*, 14.

<sup>30</sup> Porter, *Art of Hajj*, 14.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.



indicator rendered it more useful than a brass plate map,<sup>34</sup> while its concise presentation of relevant information appeared less intimidating than the more involved *qibla* tables produced for the same purpose.<sup>35</sup>

#### BUILDING A WORLDWIDE COMMUNITY

As written in the *Qur'ân*, “Turn then thy face in the direction of the sacred mosque; wherever you are, turn your faces towards it.”<sup>36</sup> Having a notion of sacred geography and dedicating effort to determining such directions especially emphasize the “wherever you are” portion of the quotation, in comprehending Islam as a global faith. Adherents are not excluded from the community based on distance from the epicenter; in fact, even during times of Ottoman–Safavid turmoil, Iranians were often welcome to participate in the pilgrimage to Mecca and Medina in Ottoman territory, as both sites are of great significance for Shi’ites and Sunnis alike.<sup>37</sup> Muslims in Cairo turn their eyes southeastward, while the faithful in Isfahan look southwest. Despite cultural, geographical, and political differences, the people of each of these locales experience a broader sense of community when realizing that they all orient themselves to the same holy sanctuary in a posture of humility and reverence. Thus, the sacred geography of Islam unites the faithful across space by imbuing its adherents with a sense of place. According to Nicholas Wise, “a sense of place refers to a sense of belonging, socially and emotionally, through collective attachment.”<sup>38</sup> As the *qibla* indicator acts as a mechanism with which to situate oneself in a global context, its contributions to creating a sense of place must not be overlooked. Holding in the palm of one’s hand the entirety of the Islamic world, as it relates to the most sacred place of which every adherent is aware, enhances Wise’s sense of

---

<sup>34</sup> For more information on brass plate maps, see King, “Two Iranian World Maps.”

<sup>35</sup> For a more in-depth discussion of *qibla* tables, see David A. King, “Al-Khalili’s Qibla Table,” *Journal of Near Eastern Studies* 34, no. 2 (April 1975): 81-122.

<sup>36</sup> *Qur'ân* II.144, as quoted in King, “Astronomy in the Service of Islam,” 189.

<sup>37</sup> Faruqi, *The Ottoman Empire*, 41.

<sup>38</sup> Nicholas Wise, “Placing Sense of Community,” *Journal of Community Psychology* 43, no. 7 (2015): 924. For a more in-depth discussion of community belongingness, see David W. McMillan, “Sense of Community,” *Journal of Community Psychology* 24, no. 4 (1996): 315-325.

social and emotional belonging through a virtual collective attachment to the sacred direction. Therefore, the ubiquitous presence of the *qibla* indicator in Ottoman Turkey and beyond effectively removed Muslims from their contemporary civic climates, positioning them instead in a universal Islamic community that transcended geopolitical boundaries.

If the *qibla* indicator can be said to connect individual Muslims, then it can also be said that the mere act of carrying such an object brings one closer to the divine. As Mircea Eliade elucidates, sacred spaces like the Kaaba are selected for their propensity to transform the ordinary into viable channels for reaching a divinity beyond the terrestrial, “the summit of the cosmic mountain.”<sup>39</sup> What was once profane now coexists as sacred material with the capacity to “reveal absolute reality and at the same time make orientation possible; hence [the sacred] *founds the world* in the sense that it fixes the limits and establishes the order of the world.”<sup>40</sup> In recognizing the sacred space as the foundation of the world, that is, the *center* of the world, men immediately feel drawn towards it, as a result of an inherent yearning to live at and in the center of the world.<sup>41</sup> Such an attraction inevitably leads to a desire to carry that center with one at all times, so that the significance of the divine is never far away.<sup>42</sup> Thus, the *qibla* indicator, as a portable object that facilitates orientation to the sacred space and represents the sacred space itself, albeit in schematic miniature, assumes a universal role in determining Islamic cosmology.

---

<sup>39</sup> Mircea Eliade, *The Sacred and the Profane: The Nature of Religion*, trans. Willard R. Trask (New York: Harcourt, Brace & World, 1959), 39. The author is aware of scholarly contentions regarding Eliade’s uncritical and antihistorical methodologies; however, the author feels comfortable citing Eliade’s notions of sacred space in this context, because they fall outside the purview of such criticism. For a more in-depth discussion regarding Eliade and his critics, see Douglas Allen, “Eliade and History,” *The Journal of Religion* 68, no. 4 (October 1988): 545-565 or Guilford Dudley, *Religion on Trial: Mircea Eliade & His Critics* (Philadelphia: Temple University Press, 1977).

<sup>40</sup> *Ibid.*, 30.

<sup>41</sup> *Ibid.*, 43.

<sup>42</sup> *Ibid.*, 44.

## CONCLUSION

During a period when Ottoman Empire politics hindered the building of thriving local communities, Muslims turned to Mecca, in accordance with a long-standing sacred geography. While astronomers developed the *qibla* indicator to aid adherents in finding the sacred direction, the portable device must have inculcated in the faithful a broader sense of community, as a result of holding a representation of the entire Islamic world in their palms. An in-depth look at the example in the British Museum reveals characteristics typical of *qibla* indicators in production, as well as an exquisite craftsmanship that speaks to great reverence for such an object. In response to the debate over the efficacy of folk astronomy or mathematical geography in determining the *qibla*, King poignantly points out that achieving a “correct” orientation was essentially irrelevant. “The ultimate purpose of the adoption of a sacred direction in Islam was in obedience to a divine injunction that the devotion of the faithful should be focused on a sacred shrine in the most sacred city at the heart of the Islamic world.”<sup>43</sup> Thus, the faithful turn their faces to Mecca as a reminder to turn their inner eye there, too; what the *qibla* indicator may lack in accurate geographical science it more than makes up for in uniting believers across the globe in physical and divine space and time.<sup>44</sup>

## WORKS CITED

- Allen, Douglas. “Eliade and History.” *The Journal of Religion* 68, no. 4 (October 1988): 545-565.
- Armstrong, Karen. “Pilgrimage: Why Do They Do It?” In *Hajj: Journey to the Heart of Islam*, edited by Venetia Porter, 18-25. London: The British Museum Press, 2012.
- “Collection Online: Sundial / Compass / Qibla Indicator.” *The British Museum*. Accessed November 9, 2017.
- Eliade, Mircea. *The Sacred and the Profane: The Nature of Religion*. New York: Harcourt, Brace & World, 1959.

---

<sup>43</sup> King, “Sacred Geography,” 177.

<sup>44</sup> Haleem, “Spirit and Rituals,” 27.

- Faroghi, Suraiya. *The Ottoman Empire and the World Around It*. London & New York: I. B. Tauris, 2004.
- Haleem, M.A.S. Abdel. "The Importance of Hajj: Spirit and Rituals." In *Hajj: Journey to the Heart of Islam*, edited by Venetia Porter, 26-67. London: The British Museum Press, 2012.
- King, David A. "Astronomical Alignments in Medieval Islamic Religious Architecture." *Annals of the New York Academy of Sciences* 385, no. 1 (1982): 303-312.
- . "Astronomy in the Service of Islam." In *Handbook of Archaeoastronomy and Ethnoastronomy*, edited by C. L. N. Ruggles, 181-196. New York, Heidelberg, Dordrecht, & London: Springer Science+Business Media New York, 2015.
- . "Faces of the Kaaba: It's a Primitive Observatory, Weather Vane, and Pointer to God." *The Sciences* 22, no. 5 (May-June 1982): 16-20.
- . "The Sacred Geography of Islam." In *Mathematics and the Divine: A Historical Study*, edited by T. Koetsier, and L. Bergmans, 161-178. Oxford: Elsevier B. V., 2005.
- . "Science in the Service of Religion: The Case of Islam." *Impact of Science on Society* 40, no. 1 (1990): 245-262.
- . "Two Iranian World Maps for Finding the Direction and Distance to Mecca." *Imago Mundi* 49, no. 1 (1997): 62-82.
- . *World-maps for Finding the Direction and Distance to Mecca: Innovation and Tradition in Islamic Science*. Leiden & Boston: Brill, 2014.
- Kitagawa, Joseph M. "Reviewed Work(s): *Religion on Trial: Mircea Eliade and His Critics* by Guilford Dudley." *The Journal of Religion* 59, no. 3 (July 1979): 362-364.
- McMillan, David W. "Sense of Community." *Journal of Community Psychology* 24, no. 4 (1996): 315-325.
- Porter, Venetia. *The Art of Hajj*. London: The British Museum Press, 2012.

Smith, Jonathan Z. "The Wobbling Pivot." *The Journal of Religion* 52, no. 2 (April 1972): 134-149.

*The Early Modern Ottomans: Remapping the Empire*. Edited by Virginia H. Aksan, and Daniel Goffman. Cambridge: Cambridge University Press, 2007.

Wise, Nicholas. "Placing Sense of Community." *Journal of Community Psychology* 43, no. 7 (2015): 920-929.